DOCUMENT RESUME

ED 424 073 RC 021 722

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TITLE An Evaluation of the Outdoor Adventure Challenge Programme (OACP) at Rolleston Prison.
PUB DATE 1998-00-00
NOTE 13p.; In: Exploring the Boundaries of Adventure Therapy: International Perspectives. Proceedings of the International Adventure Therapy Conference (1st, Perth, Australia, July 1997); see RC 021 699.
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Adventure Education; Attitude Change; *Correctional Rehabilitation; Foreign Countries; *Outcomes of Education; *Prisoners; Program Evaluation; *Recidivism; Rehabilitation Programs
IDENTIFIERS Adventure Therapy; New Zealand

ABSTRACT

The New Zealand Department of Corrections commissioned an outcome evaluation of an outdoor adventure challenge program (OACP) on 84 participating inmates at Rolleston Prison. The program consisted of 2 weeks of fitness training, skill development, and challenge experiences, followed by a 5-day wilderness expedition. Outcome was measured in three ways: reconviction statistics, content analysis of qualitative data, and a true experimental design involving various psychometric measures of attitudinal change. Reconviction data indicated consistently positive though nonsignificant trends in favor of the OACP participants over matched controls. The lack of statistical significance may be due to the relatively low sample sizes, as well as large variability in dependent measures. The qualitative inquiry revealed a variety of perceived positive impacts from participation. Results from psychometric evaluation showed significant improvement in group cohesion, trust, self-efficacy and well-being, and approached significance on motivation to change for the OACP group, whereas no significant improvements were found in the control group. The results provide some support for the use of OACP as a rehabilitative intervention with offenders, as well as contributing to the goal of secure and humane containment. The data also validate the use of OACP as an adjunct to other correctional programs, helping to create the conditions for effective facilitation of other correctional interventions. Contains 15 references. (Author/TD)

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An Evaluation of the Outdoor Adventure Challenge Programme (OACP) At Rolleston Prison

By Elaine Mossman

Abstract

The Department of Corrections commissioned an outcome evaluation of an Outdoor Adventure Challenge Programme (OACP) on participating inmates. The core programme was of three weeks duration, and consisted of fitness training, skill development and challenge experiences (2 weeks) followed by a five-day wilderness expedition. Outcome was measured in three ways: reconviction statistics, content analysis of qualitative data, and a true experimental design involving various psychometric measures of attitudinal change.

Reconviction data indicated consistently positive though non-significant trends in favour of the OACP participants over the matched controls. The lack of statistical significance may be a function of low statistical power caused by relatively low sample sizes, as well as large variability in dependent measures. The qualitative inquiry revealed a variety of perceived positive impacts from participation. Results from psychometric evaluation showed significant improvement in group cohesion, trust, self-efficacy and well-being, and approached significance on motivation to change for the OACP group (n=12) whereas no significant improvements were found in the control group (n=10). The results provide some support for the use of OACP as a rehabilitative intervention with offenders, as well as contributing to the goal of secure and humane containment. The data also validate the use of OACP as an adjunct to other correctional programmes, helping to create the conditions for the effective facilitation of other correctional interventions.

Introduction

It is now generally accepted that the proportion of people who re-offend after being released from a sentence of imprisonment is unacceptably high: prison, in and of itself, does not appear to reduce the likelihood of re-offending. Consequently, there is currently widespread support for the provision of effective programmes and interventions for

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inmates designed to reduce the rate of recidivism and relieve the current pressure on the prison system. Many correctional programmes are classroom-based, (e.g. anger management, alcohol and substance abuse, driver offender programmes, and other basic adult education classes). However, the majority of offenders come from backgrounds in which they have experienced failure in classroom settings. Purely verbal interchanges appear to have a limited effect with this population. As an additional intervention to those routinely conducted with this population, outdoors adventure challenge programmes (OACPs) have, in recent years, gained a degree of acceptance. A number of studies have been conducted, both overseas and in New Zealand, which document reductions in recidivism as a result of participation in outdoor programmes. These have been with delinquents (Kelly & Baer, 1971; William & Chun, 1973; Minor & Elrod, 1990) and with probation clients (Bauer, 1982, Campbell, Easthope & Riley, 1982; Harris, et al, 1993; Kimball, 1979).

This paper is a report of a study designed to evaluate the capacity of one form of OACP to help in the reduction of recidivism with imprisoned offenders. Based on a comprehensive review of the literature, it appears that this is the first research project looking at effects of an outdoor programme on incarcerated adult offenders (as opposed to offenders on community-based sentences.

This paper provides a full description of the OACP run at Rolleston Prison, New Zealand, and briefly outlines the philosophical basis upon which the programme operates. Research methodology and results are then presented, derived from the recent multi-modal evaluation of the programmes outcomes. Considerably more data was collected than is reported here; full elaboration of all results is beyond the scope of this paper.

Description of Programme

The Outdoor Adventure Challenge Programme (OACP) at Rolleston Prison has been running in its present form since November 1993. A full-time tutor is employed by the prison to run up to ten programmes per year. The core programme for selected inmates consists of two weeks of fitness training, skill development and challenge experiences, followed by a five-day expedition (a total of 200 contact hours per programme). Activities typically covered in the first week include an introduction to the programme and outdoor equipment, bush craft and survival skills, day hikes, a caving expedition, traversing the prison's confidence course, rock climbing and abseiling. These activities are intended to provide successful challenge experiences, as well as to develop fitness and skills necessary for completion of the final week's expedition. They also permit the opportunity to develop group cohesion. The expedition itself is a more intensive and protracted experience, spanning four nights and five days. The expedition utilises skills learned during the training period, but presents its own set of unique challenges. Participants are expected to tramp for extended periods, traverse mountainous terrain, cross swiftly-flowing rivers, all the while carrying with them their own food, shelter and all other equipment for self-sufficiency. Inmates completing the core programme, who were perceived as having responded particularly well, were offered Outward Bound scholarships.

The typical OACP involved eight inmates, a prison officer, and the tutor (numbers of inmates tended to be restricted by safety considerations and concerns for programme effectiveness). The custodial manager of the inmate's unit, who nominated individuals

perceived as likely to benefit from this type of programme, made selection of participants. There may however also have been a tendency for inmates to be selected on the basis of "deserving" to go, because of compliant behaviour in the prison. Participants had to be physically able and not classified as a security risk. Nominated inmates seldom turned down the invitation to participate in a programme, and very few dropped out after starting.

Participants were serving sentences for a wide range of offences, including driving offences, theft, fraud, drug dealing, assault, sex offences (both rape and child molestation) and murder. Programmes were run with both male and female participants (although never mixed parties). Ages of participants ranged from 17 to 56 years.

Philosophy of the Programme

The Rolleston Prison OACP sought to deliver a developmental/therapeutic programme as defined in the latter two stages of Priest & Gass's (1993) model of adventure education, as opposed to a simple recreation or educational experience. Primary goals were, in the longer term, to reduce the likelihood of re-offending, as well as to contribute to safe and humane containment. It was expected that the experiences to which participants were exposed would address the following criminogenic needs: motivation to change existing criminal attitudes and behaviour patterns, preferences for pro-social behaviour, improved interpersonal skills, and enhanced self-efficacy and problem solving skills. It was expected also that the goal of reduced re-offending would come about indirectly through increased receptivity to other correctional interventions.

The programme relied on various mechanisms to achieve these goals: firstly, there was the belief that challenging wilderness experiences are intrinsically beneficial (the philosophy of 'letting the mountains speak for themselves'). Further, the necessity for participants to cooperate and interact around group goals was expected to create positive effects in terms of interpersonal competence. Finally, the mid and post-event processing and debriefing of specific events assisted learning (and, hopefully, transfer to outside life) of new pro-social concepts, perspectives, and values.

In many ways, the OACP might be best viewed as a metaphor or parallel to life in the community. The necessary pro-social attitudes and behaviours required for successful participation in the programme would hopefully generalise to participants' lives after release. In this way it would help these individuals more successfully to re-integrate into society and thereby reduce the likelihood of re-offending.

Research Process

In the current economic climate, justifying the expenditure made on rehabilitative programmes is increasingly important. Evaluations need to demonstrate the extent to which programmes succeed in reducing reoffending and improve offender adjustment. Reviews of the literature in areas of offender rehabilitation, outdoor education and adventure therapy revealed a lack of published research on the effects of outdoor programmes on incarcerated adults. Those studies that have been published were limited to juvenile delinquents or youth at risk, or adults on community-based sentences. Further, many of the studies looking at the effects of outdoor programmes on delinquent populations failed to explain how achieving the evaluated outcomes are related to a

reduction in recidivism. For example, studies using measures of self-esteem regularly fell into this trap.

Rolleston Prison's mission statement provided the main framework for relevant programme outcomes to be assessed. This statement reads: "the mission of Rolleston Prison is to provide secure, safe, fair and humane management of inmates by meeting their needs with the provision of services and programmes to reduce the likelihood of re-offending. Therefore, it was decided the evaluation should be based on three main outcomes: 1) the reduction in the likelihood of reoffending; 2) increasing the effectiveness of other correctional programmes; and 3) helping to provide secure, safe, fair and humane containment.

A multi-modal research design was adopted to evaluate these outcomes, utilising three contrasting methodologies. These methodologies and results are presented below. A discussion of the results follows, addressing the three outcomes outlined above.

Methodology & Results

Study I: Rates of recidivism.

Study I compared the rates of recidivism of past OACP participants with matched controls. From a population of 167 participants, 84 subjects were selected on the basis of having been released for a period of greater than 6 months after completing the core programme. A matched control group was selected from approximately 1500 inmates released from the prison over the previous three years. Subjects and controls were matched on time at large as well as gender, age, ethnicity, and probability of reconviction (using an actuarial model developed by Corrections staff; Bakker, Riley & O'Malley, 1995).

It is generally accepted that multiple measures of recidivism be considered in evaluating the effectiveness of correctional programmes. Several measures of recidivism were therefore used. These include number of reconvictions, number of reincarccerations, seriousness of offences, time before first offence, and rate of reconviction. This information was derived from criminal history sheets obtained from a national Corrections Department computer database.

It has to be acknowledged that both the comparison group members and the OACP participants may have, at times in their individual sentences, participated in other forms of rehabilitative programmes. Consequently, comparisons of the data for the two groups compares the unique contribution of the OACP in reducing recidivism to the effect of a "typical sentence" at Rolleston Prison (which includes participation on standard courses). It was not possible to obtain genuinely "no treatment" controls.

Results of study I.

Results are presented for several groups of subjects: OACP participants (both males and females, n=84); a group who either withdrew prematurely from the programme or who refused to participate (n=12); and comparison subjects (n=84). Where available, statistics derived from a national database for offenders are also presented. The proportion for each group reconvicted and reincarcerated is presented in Table 1.

Table 1
Percentage for each group of Reconviction and Reincarceration

Group	Reconviction	Reincarceration
OACP	46.4%	14.3%
Comparison	50%	20.2%
Withdrawn	66.6%	41.7%
National Average	53%	61.3%

Data in both areas follow a similar pattern: OACP groups had the lowest reconviction/reincarceration rates, followed by the comparison group, both of which were lower than national averages. The withdrawal group had the highest proportion of reconviction, even higher than the national average. This perhaps suggests that individuals who withdrew from the programme tended to be a particularly difficult type of inmate compared to all other groups. Indeed, comparison of probability of reconviction found this group to be particularly high risk (0.95, i.e. 95% chance of reconviction over 5 years, compared to the group average of 0.84).

When male and female data were analysed separately, it was found the females who participated on the OACP did comparatively better than the males. This was especially evident in reconviction rates. Only 29.9% of the OACP females were reconvicted while 61.2% of the OACP males were. In the comparison group, the reverse was true: 88.2% of females were reconvicted compared to 55.2% of the males, a statistically significant finding ($t=12.14$, $p<0.01$).

Other measures used included seriousness of offences (based on number of days imprisonment handed down by judges over one year's sentencing for the range of crimes on the statute books), time elapsed until first offence (days), and rate of reconvictions (number of reconvictions divided by time at large). A comparison of these measures across the two groups appears in Table 2:

Table 2
Measures of Recidivism of OACP Participants Compared to Matched Comparison Group.

Variable		Mean (sd)	n	T	p
Seriousness of reconvictions	OACP	30.2 (38.4)	46	.82	0.4
	Comparison	43.5 (104.4)	52		
Most serious reconviction	OACP	77.0 (152.6)	46	.63	0.52
	Comparison	100.7 (209.7)	52		
Time to first reconviction	OACP	217.5 (195.3)	46	.99	0.33
	Comparison	182.7 (146.6)	52		
Rate of reconvictions	OACP	0.011 (0.02)	46	1.41	0.16
	Comparison	0.025 (0.07)	52		

It can be seen that on average the OACP had lower indicators of recidivism on all four measures compared to the comparison group, although independent t-tests on the above results found no statistically significant differences. However, calculations to assess statistical power found that, for the above measures of recidivism with the large

variability in data, to have an 80% chance of showing a statistically significant difference at the $p<0.05$ level, sample sizes of between 175 and 1571 were needed. Hence, the consistency in the trend of the OACP participants repeatedly having lower measures of recidivism is likely to have greater significance than that indicated statistically.

In summary, the OACP group had a lower number of reconvictions and reincarcerations, on average were convicted of less serious offences, had a lower rate of reconviction, and survived longer before being reconvicted. However, they were not found to be statistically significant, probably due to a lack of statistical power. Probably the most convincing result is the recurring trend in these results of the OACP group out performing the comparison group on all measured of recidivism assessed.

Study II: Qualitative inquiry.

Semi-structured interviews were carried out with various inmates selected by purposeful sampling ("information-rich cases"). Inmates were selected from one of three groups: participants who had not been released (n=6); participants who had been released but not reconvicted (n=6); and participants released and subsequently reconvicted (n=4). Interviews were also conducted with staff with some involvement with the programme or its participants, including custodial officers, tutors and managers. The purpose of the interviews was to assess the perceived value of the programme. Results were content-analysed to determine common themes, and to provide some pointers to hypothesis that could be tested in future. It was also hoped that the interviews might suggest possibilities for the development of theoretical explanations.

Results of study II.

Participants' perceptions were often consistent with observations made by prison staff. The amount of information collected was inevitably considerable, and beyond the scope of this paper to report fully. However, the general theme that emerged was that the programme was of value. It was felt that the programme directed inmates in a positive direction, taught many pro-social life skills, and helped them to not reoffend. Four of the 16 inmates interviewed were convinced their staying "straight" was the direct result of participating in the OACP. The programme also appeared to foster an improved attitude towards the correctional system. Inmates felt that they were able to develop better relationships with prison staff, and experienced improvements in relationships with inmates of other races. Several inmates commented how they preferred the experiential nature of the OACP, compared to other traditional classroom-based programmes.

Inmates reported that different components of the programme impacted particularly upon them. Some found the group dynamics especially important, others related more to the physical and emotional challenges, and others felt the instructor himself was the most significant factor.

The qualitative data supports the quantitative data above. All but one participant found the programme to have been personally valuable, and over half (9 out of 16) of the inmates reported the programme resulted in them either choosing a new way of life, or enhancing their motivation or confidence to "stay straight."

Some examples of participant statements are included here:

"It can change your life, it really can" (jpnr25.2).

When I look back now, I'm really glad I did that course, it's done a lot for me, its made me think a lot about what stupid things I've done in the past, young and stupid.... I actually got a job last year the first time in seven years.... I got a job, got (rugby) league, all those things I've been trying to look for in seven years, and that all happened because of the outdoor programme. (mknr14.2)

It was time out, I thought this is neat, what am I doing there (prison).... I actually pondered how I felt out there... you know your thinking why, how dumb offending is, and what it costs. Losing my freedom, not being able to be out here...you really challenge your reasoning, and why you offend, you know why did you offend and lose this freedom? I think its particularly good for men who sexually offend against children ... we lack self-confidence, particularly with adults and that is why we tend to seek company with children... So we actually get this confidence with each other, with adults, and expose these feelings and emotions. (pskm14.11)

Study III: True experimental design (pilot study).

The third study involved administration of a number of psychometric measures to participants and the comparison group. Measures included motivation to change criminal behaviour, measures of interpersonal trust, self-efficacy, group cohesion and well being. These were administered to a group of inmates immediately prior to and following participation on an OACP (n=12) and to a control group (n=14). Selection of inmates to each group was through random assignment.

The measures chosen were selected on the basis that they related to intermediate, short-term outcomes. These outcomes in turn were believed likely to increase the effectiveness of other subsequent group interventions or therapy. Pilot testing of several instruments revealed problems with subjects' reading ability, inability to make accurate self-assessments, tendency towards guessing 'right' answers rather than 'honest' answers, and responses that just didn't correspond to observed or reported behaviour. There were also problems finding instruments that assessed behaviour that was relevant to incarcerated adults in their present situation. Hence, final testing was carried out using an interview procedure, based on some previously developed test inventories, and some questions developed by the researcher to overcome some of the above problems. Insufficient piloting and validation meant these results could only be regarded as a pilot study.

Results of study III.

A Wilcoxon matched-pairs signed ranks test was used to compare the results of the psychometric assessments of the two groups and appear in Table 3. The OACP group showed significant improvements in all dependent measures except readiness to change,

which approached significance. In comparison there was an absence of significant changes in the control group.

Table 3:
Pre-Post comparison of OACP and matched control group.

Variable			Mean (sd)	n	Z	p
Group Cohesion	OACP	Pre	3.92 (.60)	11	2.25	0.024*
		Post	4.15 (.38)			
Interpersonal Trust	OACP	Pre	1.67(2.10)	12	2.52	0.012*
		Post	3.46(2.02)			
	Control	Pre	3.40(1.84)	10	0.27	0.787
		Post	3.33(2.12)			
Self-efficacy	OACP	Pre	4.20(.50)	12	2.22	0.026*
		Post	4.49(.45)			
	Control	Pre	4.47(.42)	10	1.51	0.124
		Post	4.33(.46)			
Readiness to Change	OACP	Pre	2.93 (.93)	12	1.826	0.0680
		Post	3.17(.89)			
	Control	Pre	2.72(1.09)	9	0.000	1.000
		Post	2.72 (1.09)			

Note. *$p<0.05$

The effect of the OACP on group cohesion was assessed by administering a modified version of the 'Team Development Inventory' (TDI; Bronson, 1991) at the beginning and end of the programme. As the control group was interviewed on an individual basis and was not functioning as a group it was not possible to compare results on this dependent variable to on a non-participatory control. Therefore, pre-test levels of only the OACP group were compared to post-test levels. When items were examined individually two measures of group cohesion showed the greatest gains. The group's ability to be friendly and interested in each other ($p=0.018$), and that group members were aware of and faced up to conflict ($p=0.043$), both are especially relevant aspects of interpersonal interaction with this population.

Both groups (the control and OACP groups) rated on a 10-point Likert scale, "How much do you trust other inmates around this place?" The question was not targeted towards group members but inmates in general so as to be relevant to both the control group as well as OACP participants. It should be noted that trust was still low for all inmates, and although there was a significant increase in the OACP group, this was only to a level just above that of the control group. The low level of the OACP group trust at pre-test could possibly reflect their apprehension over facing programme participation with a group of strangers. It would have been interesting to have asked the experimental group how they felt levels of trust changed specifically within their group. The results should be viewed with caution; this was only a pilot test of the trust measure, which had not previously been tested for validity or reliability.

One of the commonly reported outcomes of an outdoor programme, which was supported with significant improvements in the above results, is an enhanced self-confidence. Thus self-confidence was apparently brought about by successful completion of many of the physically and mentally demanding challenges presented. Abseiling down cliffs, crossing mountainous terrain, successfully crossing major rivers, effectively using the support of the group, and simply completing a lengthy expedition had evident effects upon participants. Self-efficacy was measured using eight statements relating to prison

life (e.g., "How confident are you that you would finish a programme once you started") which subjects rated on a 5-point Likert scale. The researcher developed this measure after existing instruments proved unsuitable for this population. It should, however, be stressed again that these results are pilot results only, as the questions have not been tested for validity or reliability. However, the results are strongly supported by qualitative comments made in the interviews.

The final dependent measure was inmates' motivation to change a critical dimension of offender rehabilitation. The improvement in inmate motivation to change would be an enormously valuable outcome of participation on an OACP. Motivation to change was assessed through a combination of modified instruments drawn from the Transtheoretical Model of Change (Prochaska & DiClemente, 1983) and adapted by Lerner (1990) for adolescent delinquents. Instruments measuring an inmate's self-reported stage of change, their decisional balance and their level of self-efficacy to not re-offend were implemented in an interview fashion, and results were collated together to appraise the inmate's supposed stage of change towards giving up criminal behaviour. Results showed the OACP group after participation on the programme on average improved their stage of change to a level that approached significance ($p=0.068$), compared to no change at all in the control group. These results were supported by positive but non-significant trends in measures of self-efficacy to change and decision balance, compared to no change or opposite trends for the controls.

Discussion

Results from the three studies are discussed across the three evaluation criteria outlined earlier.

Reduction in the likelihood of re-offending.

The present study has provided further support for the notion that offenders who participate in an OACP recidivate at a lower rate and less seriously than those who do not. The participants in this study also remained in the community for longer periods without being reconvicted than non-participants. Though the difference in recidivism between treatment and control groups was not statistically significant, it appears this may have been a function of large variability in the data coupled with a small sample size. The size of effect may indeed also have been more pronounced had it been possible to use a true no-treatment control group. However, consistent trends in favour of the OACP group can not be ignored.

The reduction in recidivism may be explained by the fact that the programme appears to have made an impact on a number of criminogenic needs. Qualitative enquiry showed a number of personal attitudes that have been empirically linked to risk of re-offending were reduced or improved. Participants exhibited enhanced pro-social attitudes. They expressed a better attitude towards the correctional system, were less racist, had more empathy for other individuals, and in many ways a broadened and more positive perspective on life generally. Behaviours and characteristics also linked to reduced risk, and apparent in participants after completing the programme, included improved self-control, less impulsivity, enhanced interpersonal skills, stronger feelings of self-efficacy and increased confidence in achieving personal goals.

The aimless and unproductive use of leisure time has been linked with risk of reoffending. Participants also expressed interest in participating in new leisure activities on release, including the desire to go back out into wilderness areas.

The qualitative interviews repeatedly revealed in participants an apparently heartfelt determination to re-direct their life course away from offending. Although these kinds of declarations should always be taken with caution, it is nevertheless important that many of these individuals saw the OACP as having made a definitive impact on them in this regard.

Aiding in the facilitation of other correctional programmes.

Outdoor programmes involve inmates working together, achieving challenging group and individual goals, in a novel and neutral outdoor environment. It is commonly accepted that these conditions can have a powerful impact on individuals' self-confidence, interpersonal skills, and ability to relate to and trust others. The second goal of the OACP was that participation might improve such characteristics that would likely result in an increased willingness and ability of the participants to engage in other correctional programmes, thereby enhancing the effectiveness of these. Though no direct evidence of this was sought, it appears that the OACP did encourage in the participant's attitudes and values that would predict successful involvement in other programmes. These characteristics included significant improvements in group cohesion, levels of interpersonal trust, self-efficacy, and a heightened motivation to change.

The qualitative data appears to suggest that increased motivation toward giving up criminal behaviours is a result of several factors. These factors include being introduced to a different and unfamiliar way of life, having time out to think about what they wanted to do with their lives away from day to day distractions, and simply highlighting what was being given up through offending and being imprisoned.

Hence, developing a motivated, confident, functional group willing to learn, and sufficiently trusting to disclose relevant personal information, may significantly increase achievement of programme objectives in classroom-based interventions. Interestingly, a number of participants reported that the OACP gave them an opportunity to practice the life-skill concepts they had been learning in classroom programmes

Demonstrating improvements in these short-term intermediary variables and linking such improvements to reducing re-offending through improved effectiveness of other correctional programmes, is an important consideration for the use of outdoor programmes. It has to be acknowledged that research findings indicate that the longevity of beneficial effects from outdoor programmes have still to be firmly established (Fyfe, 1990; McLaren, 1992; Bauer, 1982; Baer, 1975). However, demonstrating that the OACP improves, even in the short-term, conditions for learning within the context of other programmes is an important effect, enabling individuals who are otherwise resistant to standard rehabilitative programmes to actively engage in these, and profit from them. Therefore that these effects (group cohesion, trust, etc) may survive in the short-term only is unimportant if, in the short-term, the person is thereby assisted in other programmes.

Secure, safe, fair and humane containment.

One component of Rolleston Prison's mission statement is safe, secure, fair and humane containment of inmates. It appears provision of outdoor challenge activities seems to help this mission being achieved in several ways.

An improved attitude towards the correctional system was reported by several inmates, who expressed feeling pleasantly surprised at having been given the opportunity to participate in such activities. They were forced to re-evaluate their earlier belief that the correctional system was "out to get" them, in the light of this positive experience being provided. Improved relations with officers might reflect a similar process. Officers participated in the programme as equals, sharing similar feelings of fear, determination and achievement. Some inmates came to a realisation that the officers were in fact human, just like them, and as officers, were simply doing a job. Improved relations across inmates of different races improved similarly. Such improved attitudes and relationships inevitably must have a beneficial effect on the management of the inmates, and the smooth running of a unit. Officers actually reported a reduction in the frequency of serious incidents and assaults in the unit as a result of OACP participation, which suggests an important and tangible benefit of the programme.

The inmates themselves, as mentioned earlier, also developed better relationships among themselves across racial and other perceived differences, which are often found to be the basis of most prison incidents. Again, this must help in the management of inmates in a secure, safe, fair, and humane manner.

Though not reported above, there were significant increases in measures of well being ($p<0.01$). These measures reflect reduced feelings of depression and a sense of renewed purpose in life. These effects arguably could feed into reduced escape or suicidal wishes, and help the inmate to better cope with long sentences.

At the very least, the OACP provided an opportunity to develop health and fitness (a recognised basic inmate need) through moderately intense exercise over prolonged periods of time. It could also be argued that the OACP provided many hours of constructive use of the inmate's time.

Conclusion

In conclusion there is some preliminary evidence that the OACP is effective in reducing the likelihood of re-offending, increasing the facilitation of other programmes, and contributing to the goal of providing secure, safe, fair, and humane containment. Participant gender comparisons in terms of reconviction rates suggest that women might respond better than men. However, before definitive conclusions can be made, these results need to be replicated using larger sample sizes and better validation of psychometric instruments.

The use of the three contrasting research methodologies proved a worthwhile exercise, as it allowed more in-depth interpretation of the results. One of the strengths of this research was the fact that the outcome variables bore a theoretical relationship with the desired goal of reducing re-offending. Too many of the research methodologies conducted in this area have demonstrated supposedly positive effects of OACPs that cannot, however, be rationally linked to the goal of changing criminal behaviour.

In the future there will be a very real demand for process-type evaluations designed to assist in developing theories to explain the effect of outdoor programmes on criminal behaviour. It maybe that more qualitative and investigatory research is needed to provide the data to help formulate such theories.

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